AGROMET BULLETIN

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HIGHLIGHTS

- **Most stations experienced above-normal rainfall and very wet conditions.**
- **Above normal rainfall resulted in flooding in sections of eastern and central parishes.**
- **Below normal rainfall is forecast for most areas for May through July.**
- **Wet conditions in eastern and central parishes could be a concern for pest and disease outbreaks in farming areas.**

Weather Summary April 2017

During the month of April, the daily weather was dominated by troughs and high pressure ridges. Throughout the month unstable weather conditions associated with these troughs, impacted weather conditions across the island, where, heavy and at times prolonged rainfall resulted in severe flooding across eastern and south-central parishes.

During the month, Sangster in the northwest recorded 139.5 mm of rainfall, while Norman Manley in the southeast recorded 108.2 mm of rainfall. Sangster received 225% of its 30-year mean monthly rainfall, while Manley received 360% of its 30-year mean monthly rainfall. There were eight (8) rain days reported for Sangster Airport, while Manley Airport recorded three (3) rain days.

The highest maximum temperature recorded for Sangster Airport was 32.6°C (on April 3) meanwhile Manley Airport reported 33.3°C (on April 18).

Standardized Precipitation Index (SPI)

The Standardized Precipitation Index (SPI), developed by T.B. McKee, N.J. Doesken, and J. Kleist in 1993, is a tool used to monitor drought conditions based on precipitation. The SPI can be used to monitor conditions on a variety of time scales namely 1-month, 3-month, 6-month, 9-month and 12-month periods. This temporal flexibility allows the SPI to be useful in both short-term agricultural and long-term hydrological applications by providing early warning of drought and for making assessments on the severity of a drought. The Meteorological Service, Jamaica (MSJ) calculates an observed SPI (see Table 1 and Figure1) and a forecast SPI (see Figure 2) using a 3-month and 6-month time interval, respectively.

Parish	Station	April Rainfall Total (mm)	Percent of 30-year Mean (%)	Observed SPI for February-March-April
Hanover	Mount Peto	286	147	1.35
Westmoreland	Savanna-La-Mar	152	113	0.22
Westmoreland	Frome	170	114	0.32
Manchester	Sutton	650	272	2.75
St. Elizabeth	Y.S. Estates	210	100	0.77
St. Elizabeth	Potsdam	184	159	1.85
Clarendon	Beckford Kraal	348	294	2.13
St. Catherine	Tulloch	313	277	2.06
St. Catherine	Worthy Park	256	261	1.94
Trelawny	Orange Valley	197	293	1.53
St. James	Sangster	140	226	0.98
St. Ann	Cave Valley	472	444	3.75
St. Mary	Hampstead	123	77	0.06
Portland	Shirley Castle	534	161	1.33
St. Thomas	Serge Island	447	505	2.05
KSA	Langley	262	187	0.48
KSA	Manley Airport	108	360	1.64

Table 1: Observed SPI for Selected Stations across Jamaica during the February-April Period.

SPI Value	Category		SPI Value	Category
0.00 to -0.50	Near Normal		**0.00 to 0.50**	Near Normal
-0.51 to -0.79	Abnormally Dry		**0.51 to 0.79**	Abnormally Wet
-0.80 to -1.29	Moderately Dry		**0.80 to 1.29**	Moderately Wet
-1.30 to -1.59	Severely Dry		**1.30 to 1.59**	Severely Wet
-1.60 to -1.99	Extremely Dry		**1.60 to 1.99**	Extremely Wet
-2.00 or less	Exceptionally Dry		**2.00 or more**	Exceptionally Wet

Table 2: Severity Classes of the SPI

Standardized Precipitation Index Discussion

Based on the SPI figures for the February-March-April period, five stations namely, Suttons, Beckford Kraal, Tulloch, Cave Valley and Serge Island recorded exceptionally wet conditions, while Potsdam, Worthy Park and Manley Airport recorded extremely wet conditions. Three other stations, namely Mount Peto, Orange Valley and Shirley Castle were severely wet, Sangster experienced moderately wet conditions, while Y.S. Estates experienced abnormally wet conditions.

The remaining four (4) stations were considered to be within near-normal bounds. All seventeen stations across the island experienced near-normal to exceptionally wet conditions for the three month period.

With wet conditions being experienced, the rains (over the March/April period) have provided relief from any drying which was being experienced in farming communities. Central and eastern parishes in particular, may now be experiencing an excess in rainfall, which is a reversal of the conditions experienced during the dry season months of December to February. See Figure 1 below for the graphical representation of observed SPI values for the February-March-April period.

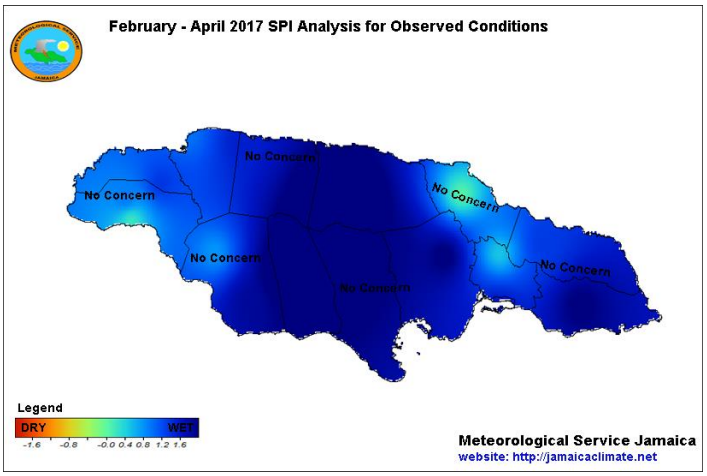

Figure 1: February-March-April SPI Analysis for Observed Conditions

The forecast through July (see Figure 2 below) has determined that there should be some mild drying especially over some eastern and central parishes, while, sections of other parishes should experience near normal conditions. With this outlook, farmers may be looking forward to some of this drying, especially in areas where consecutive months of above-normal rainfall produced flooding.

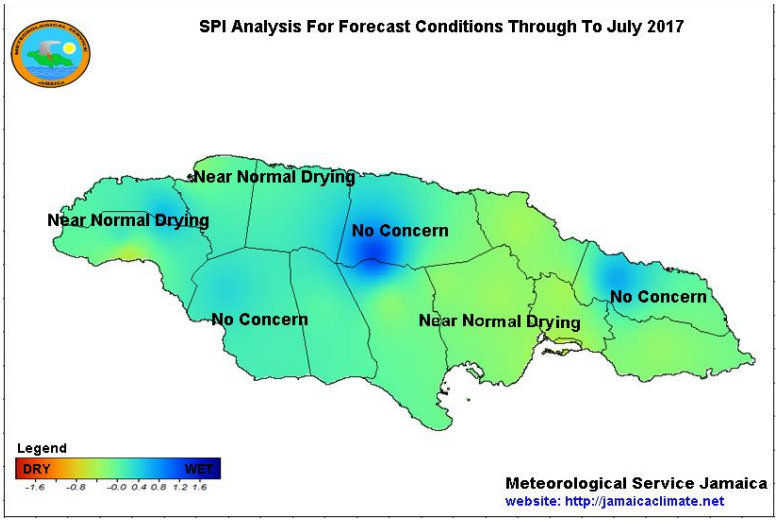

Figure 2: Forecast Drought Conditions through to July 2017

Seasonal Forecast – May to July 2017

The MSJ makes seasonal climate forecasts using the Climate Predictability Tool (CPT). The CPT was developed by the International Research Institute for Climate and Society (IRI) in order to create and communicate seasonal forecasts that address the needs of different user groups.

As we go through the early rainfall season (May/June), the forecasts are indicating below normal rainfall across most stations, with above normal temperatures.

The current projections are indicating a decline in rainfall over the next three months (May-July). Therefore, the unusual rains experienced in March and April ahead of the traditional early rainfall season, have brought relief from the dry/drought conditions which were being experienced. Should the projections materialize, this may bring relief in many farming areas experiencing wet/flooding conditions however continuous monitoring is still necessary to prevent possibly return to very dry conditions.

	% Below (B)	% Normal (N)	% Above (A)
Jamaica Rainfall Outlook	45	30	25
Jamaica Temperature Outlook	30	20	50

Key
A: Above-normal rainfall means greater than 66 percentile of the rank data
N: Near-normal rainfall means between 33 and 66 percentile of the rank data
B: Below-normal rainfall means below 33 percentile of the rank data

Table 3: Jamaica Rainfall and Temperature Probability for May to July 2017.

Table 4 below, shows the precipitation outlook for selected stations across Jamaica as analysed by the Climate Predictability Tool. Sixteen (16) of the seventeen (17) stations are indicating higher probabilities for below-normal rainfall for the May to July 2017 period, while one (1) station is indicating probability for near-normal rainfall.

Stations	Below (B) %	Normal (N) %	Above (A)%
Manley (Kingston)	50	30	20
Sangster (St. James)	33	34	33
Savanna-la-mar (Westmoreland)	40	35	25
Beckford Kraal (Clarendon)	50	30	20
Serge Island (St. Thomas)	40	35	25
Cave Valley (St. Ann)	50	30	20
Tulloch Estate (St. Catherine)	40	35	25
Y.S. Estate (St. Elizabeth)	45	30	25
Hampstead (St. Mary)	50	30	20
Orange Valley (Trelawny)	45	30	25
Langley (Kingston)	45	30	25
Mount Peto (Hanover)	50	30	20
Shirley Castle (Portland)	50	30	20
Suttons (Manchester)	40	35	25
Potsdam (St. Elizabeth)	50	30	20
Frome (Westmoreland)	50	30	20
Worthy Park (St. Catherine)	40	35	25

Key
A: Above-normal rainfall means greater than 66 percentile of the rank data
N: Near-normal rainfall means between 33 and 66 percentile of the rank data
B: Below-normal rainfall means below 33 percentile of the rank data

Table 4: Precipitation Outlook for Selected Stations for May to July 2017.

Summary and Expected Agricultural Impacts

The CPT is indicating that Jamaica is generally is expected to experience below-normal rainfall during the May to July period.

With the rainfall received in March and April, the concerns would be for flooding in many farming communities. The current forecast would give the opportunity for drying and clean-up activities however any prolonged below normal activity can once again result in drying or drought conditions in some areas and therefore continuous monitoring will continue.

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